performing quality audit, and all institutions should assess the quality of their own audit practice.

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0652: THE INCIDENCE OF HYPONATRAEMIA AFTER ELECTIVE ORTHOPAEDIC SURGERY IN A DISTRICT GENERAL HOSPITAL

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Aim: To determine the incidence of hyponatraemia in elective orthopaedic surgery in a district general hospital (DGH)
Method: Discharge summaries of patients undergoing elective total hip (THR) and total knee (TKR) replacements at a DGH between 21/09/2015 and 04/11/2015 were reviewed. Pre-operative and day 2 post-operative sodium was noted. Discharge summaries were examined for presence of common medications associated with hyponatraemia (diuretics, proton pump inhibitors and angiotensin-converting enzyme inhibitors/angiotensin receptor blockers).
Result: 118 patients underwent elective THR or TKR during study period (mean age 68.5 years). Pre-operative sodium was not available for 3 patients, who were excluded. 52 patients underwent THR and 63 underwent TKR. Mean pre-operative sodium was 137.5 mmol/L, dropping to 134.0 mmol/L post-operatively (-3.50 mmol/L, $p<0.0001$). 1.7% of patients were hyponatraemic pre-operatively. Post-operatively, this rose to 45.2%. Only 1 patient had severe hyponatraemia (sodium <125 mmol/L). 19 patients were on diuretics, 54 on a PPI and 33 on an ACE-i/ARB. ACE-i/ARB were the only drugs to have an impact on hyponatraemia (OR 2.89, $p<0.05$).
Conclusion: The incidence of hyponatraemia after elective THR/TKR was 43% (higher than reported value for general surgery). Even mild hyponatraemia has an impact on balance and mobility, hence the implications for orthopaedic surgery.

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0657: A SINGLE FEMORAL COMPONENT FOR ALL TOTAL HIP REPLACEMENTS PERFORMED BY A TRUST? DOES THIS AFFECT EARLY CLINICAL AND RADIOLOGICAL OUTCOMES?

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Hospitals may be forced to implement cost saving strategies. In arthroplasty this may involve the use of components which are not the first preference of individual consultants, or those they have little experience with. We aim to examine the effect of standardising the type of femoral stem used, particularly in those who have never used this stem before.
151 primary total hip arthroplasties were performed using a single femoral stem over 1 year. Data was split into 2 groups: those in which the operating surgeon was familiar with this stem, and those who were not. We report on radiological and clinical outcomes, complications, and overall construct survivability.
Stem survivorship was 100%, with no dislocations or revisions. No significant differences in clinical outcomes were observed. Cement grading showed a learning curve. Leg length inequality was significantly greater in those previously using the stem (+1.57mm vs 3.83mm).
Our findings suggest that radiographic and clinical outcomes are similar at 12 months even with no prior experience using this stem. Learning curves were observed although outcomes appear within safe ranges from the first few procedures. Hospitals may implement this type of policy with caution and there is a need for long-term follow up studies.

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0663: HIP AND KNEE IN GP: IMPROVING REFERRALS TO ORTHOPAEDICS – AN OBJECTIVE REVIEW OF A QUALITY IMPROVEMENT PROJECT IN PRIMARY CARE

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Aim: We conducted a quality improvement project aiming to reduce wasted orthopaedic, pre-op assessment clinic (POAC) and general practitioner (GP) appointments within a GP partnership in Wiltshire.
Method: Established quality improvement methodology, including process mapping, driver mapping and stakeholder analysis, was used to identify possible improvements to the current referral method.
Three approaches were selected
Create a data entry template with key preoperative parameters.
Create an electronic preoperative summary that automatically populates from the patient's record
Provide education for the referring GP regarding preoperative fitness
A scoring system was designed and used to assess referral letters on a monthly basis. This was plotted on a statistical process control chart to visualise the data trend.
Result: Prior to the development of the template, the mean referral score was 0.41. This rose to 0.78 following GP training and introduction of the template. After the intervention, there was a 15% decrease in the time from referral to surgery, with fewer GP and orthopaedic outpatient appointments.
Conclusion: Patients were previously 'looping' between POAC, orthopaedics and GPs, increasing the time until surgery. The approaches used in this project have led to reductions in waiting times, and appointments in both primary and secondary care.

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0702: PAEDIATRIC DIAPHYSEAL FOREARM FRACTURES: A RETROSPECTIVE ANALYSIS OF TREATMENT MODALITIES AND OUTCOME

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Through interrogation of a prospectively collected trauma database, we undertook a retrospective analysis of paediatric forearm diaphyseal fracture management in a major trauma centre. The aim of this study was to establish the optimal treatment modality for these fractures.
Paediatric patients (<16y) with forearm diaphyseal fractures were identified, clinical data was collected (demographics, complications, time-to-union and time-to-discharge amongst others) and radiographs analysed.
200 patients (mean age 7.1y, range 1-15y) were included. 137 (68.5%) underwent manipulation under anaesthesia (MUA), 23 (11.5%) open reduction internal fixation (ORIF), 22 (11.0%) elastic intramedullary nailing (EIN), 16 (8.0%) Kirschner-wire fixation and 2 (1.0%) underwent combination procedures. All fractures clinically united. Overall mean time to union was 4.56 weeks, similar across modalities. ORIF was associated with the highest complication rate (21.7%). MUA was associated with the highest incidence of residual malalignment (33.9% $>10^{o}$ angulation).
MUA was the most common treatment modality here. Associated residual malalignment may have a functional impact initially but is unlikely to be a long-term problem in the young patient capable of bony remodelling. Despite ORIF being associated with a high complication rate, the ability to achieve absolute anatomical reduction may be more beneficial in the older child.

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0713: EVALUATING THE ROLE OF ULTRASOUND IN A DIAGNOSTIC AND TREATMENT PATHWAY FOR SUSPECTED ULNAR COLLATERAL LIGAMENT INJURIES OF THE THUMB FROM ANALYSIS OF RESULTS IN A LARGE TERTIARY HAND UNIT

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Aim: This study assessed the diagnostic performance of ultrasound (US) in characterising ulnar collateral ligament (UCL) injuries to evaluate the supporting role it can play in determining which cases require surgery in this subgroup of hand injuries.
Method: Retrospective data was collected from the radiology information system on all US examinations of the thumb for suspected UCL injuries (Jan

2010-Sept 2012). Clinical notes and operative findings were used as a gold standard. In patients conservatively managed, follow up clinic letters documenting stability of metacarpophalangeal joint on stress testing were used as the standard.
Result: 45 patients fitted the inclusion criteria, 12 of whom received surgical intervention. Surgical exploration found that 9 patients were correctly diagnosed by US with UCL injuries (true positives). Three were incorrectly diagnosed (false positives). 33 received conservative management. All these achieved a satisfactory, stable outcome. Sensitivity was 89%; specificity 92%; positive predictive value 73%; negative predictive value (NPV) 97%. Accuracy was 91%.
Conclusion: US is a very useful adjunct in diagnosing UCL injuries, when clinical examination can be equivocal and painful. US was effective in confirming those who required surgery and the NPV of a US scan was excellent in supporting a decision for conservative management.

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0722: MULTICENTRED STUDY OF WRITTEN VERSUS COMPUTERISED OPERATION NOTES: TIME FOR THE NHS TO ENTER THE DIGITAL ERA?

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Aim: To assess the quality of operation notes across regional sites and ascertain differences between hand-written and computerized operation notes.
Method: 266 notes from patients undergoing orthopaedic procedures were randomly selected at three hospital sites: Site A with computerised operation notes; B with hand-written notes and C which used a mixture, determined by surgeons' preferences. Adjusted note keeping legibility index (ANKLe Score) was used to assess handwritten notes and content was evaluated according to RCS guidelines.
Result: The median ANKLe score for handwritten notes was 1.5 correlating with "legible with difficulty". Handwritten notes fared worse than computerised across multiple outcome measures most notably the recording of; responsible consultant 30.8%(97.6%), diagnosis 30%(94.4%), surgical incision 74.6%(97.5%), implants 32.2%(70.4%), antibiotics 22.4%(51.4%), thromboprophylaxis 45.57%(68.9%). Handwritten and electronic notes scored poorly in documenting blood loss 3.4%(3.3%).
Computerised notes significantly met more RCS guidelines than hand written notes($p<0.01$) and Site A performed better than B and C. The voluntary uptake of computerised notes at site C was 28%.
Conclusion: This study demonstrates that computerised operation notes vastly improves information and legibility of operation notes. When left to surgeons' choice the uptake of computerised notes is low. A move to compulsory computerised notes may drive up standards.

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0728: THE SURGICAL MANAGEMENT OF METASTATIC SPINAL CORD COMPRESSION: A PROPOSED COST-UTILITY ANALYSIS

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Aim: Metastatic spinal cord compression (MSCC) is an oncological complication with potentially detrimental affects on a patient's quality of life. It's surgical management is thought to provide the largest *unit* gain in quality of life wheb compared to other methods of intervention. This is a proposal for a prospective cost-utility analysis following the development and analysis of a surrogate model through the review of literature.
Method: The average cost of spinal decompression surgery was sought through adjustment of the patient-level costing data for implant costs. Implant data was recorded through x-ray interpretation; noting quantities of individual components used. The true implant cost for each respective case was calculated using individual component prices. Subsequently, a surrogate cost-utility analysis model was developed through the use of literature in order to work out the cost per QALY.
Result: n=62; mean adjusted cost = £16,083.78; the surrogate model provided a cost-effectiveness ratio of £28,217.16/QALY; the hypothetical model provided a cost-effectiveness ratio of £29,895.50/QALY.
Conclusion: Our study provided a surrogate cost-utility value below the £30,000 threshold employed by NICE. However, the proposed cost-utility analysis should encompass the completion of the EQ-5D questionnaire pre- and post-operatively in order to find true cost per QALY gained.

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0740: A CLOSED LOOP AUDIT: IMPLEMENTING A PROTOCOL FOR VENOUS THROMBOEMBOLISM PROPHYLAXIS IN PATIENTS DISCHARGED NON-WEIGHT BEARING AND IN BELOW KNEE CAST AFTER LOWER LIMB FRACTURE IN A LONDON DISTRICT GENERAL HOSPITAL

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Aim: There was no policy for the use of low-molecular-weight heparin(LMWH) in such patients in our unit. We identified current practice and developed a protocol for prescribing VTE prophylaxis on discharge. The audit-loop was closed after investigating adherence to the newly developed protocol.
Method: Patients admitted with lower-limb fracture and immobilised in below-knee casts were included. 154 records were analysed retrospectively over 17-months to identify mobility status, prescriptions for VTE prophylaxis on discharge and evidence of VTE. Initial results were presented at the clinical governance meeting. A risk-assessment protocol was developed with our haematology and pharmacy departments and implemented. Subsequently, 78-patients over a 12-month period (2014/2015) were re-audited.
Result: After protocol implementation, documentation of mobility status improved (67% to 87%). LMWH prescriptions on discharge increased (31% to 81%). Initial patient cohort were prescribed LMWH for an average of 29 days and immobilised for 38 days. Average days prescription of LMWH and days immobile were 28 and 35 days respectively after re-audit.
Conclusion: The VTE protocol has improved awareness of LMWH prescribing and documentation of NWB status on discharge. Our departmental protocol provides a structured method of risk assessing patients who are immobilised on discharge and guides decisions for LMWH prescribing.

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0818: EVALUATION OF MRI AND USS IN ROTATOR CUFF SURGERY

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Aim: Shoulder pain is a significant cause of morbidity. There is no clear guideline in diagnosis of shoulder pain. We set out to compare MRI and USS to assess the effectivess of the investigation.
Method: A retrospective study was done comparing shoulder arthroscopic findings from operative notes with MRI and USS reports from September 2007 - September 2008 in a District General Hospital.
Result: Of the 45 patients that underwent arthroscopic shoulder surgery: 27 patients had MRI and all 45 patients had USS prior to surgery. The prevalence of rotator cuff tears in this study was 48.88%. MRI had a sensitivity of 0.89 and specificity of 0.50, with a positive predicted value of 81% and a negative predicted value of 66%. USS had a sensitivity of 0.86 and specificity 0.65, with a positive predicted value of 70% and a negative predicted value of 83%. Z-test was used to compare sensitivity, specificity, positive and negative predicted values.
Conclusion: There was no significant difference between MRI and USS in the detection of rotator cuff tears. It is thus more cost effective and efficient